TAKING ACTION

A STRATEGY FOR THE MANAGEMENT OF SOLID WASTES

A REPORT FROM THE

MUNICIPAL SOLID WASTE MANAGEMENT TASK FORCE

MARCH 1989

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FOREWORD

Garbage is an emerging problem in British Columbia. Most of our garbage is disposed of at landfills. Over 60 percent of the landfills will be full within 10 years. Environmental and public concerns, along with conflicts with other land uses, make replacement landfills difficult to establish.

Most of the material and energy in garbage can be reused, so we are each wasting resources at a rate of over two kilograms per day.

The Task Force on Municipal Solid Wastes recommends a five-year Provincial Strategy. Our approach is to recycle the resources and energy in solid waste, and to reduce the production of material which can become waste.

The Task Force recommendations depend on the provincial government providing seed money and ongoing technical support for local government recycling initiatives. Other recommendations call for provincial government leadership to encourage markets and reprocessing opportunities for recycled material. The provincial government would also coordinate public education about recycling and waste management.

These recommendations require a provincial investment of $30 million over the five years to achieve the target of a 35 percent decrease in waste disposal volumes.

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Chairman, Task Force on Municipal Solid Waste

WHY THE TASK FORCE WAS APPOINTED

One product of the North American way of life is garbage. It flows in a rising tide from homes and businesses to municipalities, who are faced with disposing of it.

British Columbia will generate 2.2 million tons of municipal solid wastes this year — 2.02 kilograms per day for every man, woman and child. That is about 7000 pounds a year for a family of four. If you live in our culture for 70 years, your personal contribution to the solid waste problem would be 60 tonnes.

A small proportion of B.C.'s solid waste is burned. Less still is recycled. The great majority winds up in B.C.'s 236 open-air landfill projects, of which 60 percent will reach their limits in the next ten years.

There have been changes. In 1988, the Greater Vancouver Regional District's new Burnaby incinerator burned about 10 percent of the province's solid waste, producing saleable steam energy. A new resource recovery plant in Coquitlam will recover up to 50 percent of the 225,000 tons of commercial waste it will process. Still, most solid waste will go to landfill sites. Public concern about the safety and appearance of waste disposal methods will continue to grow.

Municipal waste must be reduced. How? And by whom?

On August 3, 1988, the Task Force on Municipal Solid Waste Management was appointed by Environment Minister Bruce Strachan to find the answers to those questions. The Ministry released a discussion paper *(The Provincial Role in Municipal Solid Waste Management)* and asked for input via the Task Force in a widely publicized four-month program. Response was excellent. The Task Force members conducted 19 public meetings across the province, visited waste management sites, and received hundreds of submissions and letters.

This summary of the Task Force's 150-page report focuses on the main areas addressed and the resulting recommendations. Copies of the complete report are available from the Public Affairs and Communications Branch, Ministry of Environment.

THE BASIC RECOMMENDATIONS

The message is clear: it is time for action. Municipalities are aware of the need for better solid waste management. The public is prepared to cooperate. Most of the briefs we received stressed the importance of reducing the volume of materials that require disposal as waste.

We recommend, first of all, that the Province adopt the five R's of Municipal Solid Waste Management.

Reduce (by promoting the use of products and packages that create less waste);

Re-use (by promoting containers, such as beverage bottles that can be used again);

Recycle (by separating useful materials from waste materials before collection);

Recover (by extracting useful materials and energy from waste after collection); and managing the

Residue (by disposing of final waste materials in an environmentally safe way).

We recommend that the Province assist municipalities with grants totalling up to $30 million over the next five years, with a follow-on five-year

program aimed at sustaining the gains. The goals: reduce municipal waste by at least 35 percent — 25 percent or more through recycling, and a minimum of 10 percent through composting. The Ministry of Environment should gear up to support local government by creating, and allocating resources to, a new Solid Waste Management and Recycling Section within the Waste Management Branch.

It's the provincial government's job to set environmental standards and enforce them. Local governments — regional districts and municipalities — should do the job of planning and implementing solid waste management practices, because they understand local conditions. The *Waste Management Act* of 1982 allows them to consolidate all their provincial waste disposal permits by preparing waste management plans that combine environmental protection with unique community needs. We recommend that all regional districts, and all municipalities not covered by regional district plans, prepare waste management plans by December 31, 1994.

The Province should help, by providing technical assistance through the Ministry of Environment and funding to defray the costs of preparing the plans: $5000 plus 50 percent of the next $10,000 up to a maximum of $10,00 per applicant. Regional districts should be eligible for this grant for each municipality included in their plans.

The Province should also assist by conducting studies that will help local governments plan. For example: studies of the true costs of landfills and incinerators; the composition of waste; and markets for recyclable materials. The subjects are listed in the recommendations. The Province should also fund research in solid waste management.

We also recommend that the *Municipal Act* be amended to equip local government with appropriate authority to deal with this problem. Solid waste disposal should be made a regional function, and local governments should be required to establish a capital reserve covering the long term responsibility for facilities. They should also have more freedom to raise revenues for these purposes. The Province should show its commitment to sound waste management by paying for the use of local facilities by provincial agencies.

MUNICIPALITIES SHOULD RECYCLE

Much of municipal waste is recyclable. Recent studies suggest that B.C.'s waste is 40% paper, 6% glass, 5% metals, 9% plastics, 35% organic material, and 5% other materials. That is, over half is recyclable and over a third is compostable. Recycling has grown rapidly, especially in Ontario and the northeastern United States, where disposal problems have become severe. The programs vary greatly, but are aimed mainly at single-family dwellings. In 36 curbside pickup programs across North America, observers found that convenience is important. Collecting recyclables and garbage on the same day, for example, helped the public remember recycling. The same is true with special containers. The most common is the Blue Box — a 10-gallon

plastic tub with *We Recycle* embossed in white. In five communities, participation rose from an average of 40 percent to 69 percent when containers were provided. One reason: their appearance at curbside generates peer pressure to participate. Mandatory programs did not do noticeably better than voluntary programs.

What about the costs of recycling? Revenue from selling recyclables may not cover the cost of collecting them. But the saving in landfill use fees can generate a substantial reduction in cost overall. This has been the case in Pennsylvania, where 45 municipalities achieved an average saving of $26.77 for each ton of recycled waste.

Only 31 of B.C.'s 172 regional districts and municipalities were operating recycling programs in 1986, and only 14 of these provided curbside collection. They had the potential to reach just 11 percent of B.C. households. But since 1986 the province has made progress. Delta began a curbside pickup program that is highly successful, and the Capital Regional District's curbside pickup program will start operating in March.

WHAT ABOUT COMPOSTING?

Composting, a form of recycling, is the natural breakdown of organic wastes into a material that can serve as a soil conditioner or mulch. This process reduces the volume of waste, as microorganisms convert much of it to carbon dioxide and water.

How much of municipal waste is compostable? Leaves and other yard wastes, food wastes, and other organic material — about a third of all municipal waste — can be composted for use by landscapers, nurseries, city works departments and home gardeners.

Large scale composting of leaf and yard waste started in Portland, Oregon eight years ago because of bans on backyard burning. Today two firms accept 300,000 cubic yards — 25 percent of the city's yard waste. They charge for their service, and market the end product. At least six municipal composting programs are operating in B.C. today.

REMOVING THE BARRIERS TO RECYCLING AND COMPOSTING

For many of B.C.'s regional districts and municipalities, three primary barriers stand in the way of these programs:

First, local governments tend to underprice their landfill costs. However, full cost-accounting estimates, prepared as part of their solid waste management plans, will bring out the real cost of disposal, and the real economic value of recycling. Second, local governments may not know how to get started. The Ministry can remove that barrier by developing manuals for recycling and composting, and backing them up with ongoing technical support. Third, some local governments may be concerned about the stability of the markets for recycled materials. The Province could provide reliable markets through marketing coordination, regional development of recycling industries, purchasing preference for recycled materials, and other programs and policies.

We do not recommend that the Province become involved in transportation subsidies, alleviating what for some is the greatest barrier to recycling — cost of transporting recyclable materials. We do recommend that the Province help solve this problem by developing new markets, and by reviewing transportation regulations. The requirement for transportation subsidies will be addressed by local government.

Startup costs, particularly for curbside programs, may also be a barrier. The capital cost of Blue Box containers (estimated at $5-$8 each), buildings, public education, and collection and processing equipment could stand in the way. We recommend that the Ministry set up a five-year grant program for local governments. If their plans show that recycling or composting are justified, the grants should supply household containers, and a portion of the costs of other equipment and promotion.

The Province should also set a lead in recycling by setting up an office paper recovery demonstration project, beginning with the Parliament Buildings and expanding to all ministry and Crown corporation offices. The Ministry should also encourage commercial recycling programs.

Business, industry, and the public need to know what can be recycled and how. One industry can often use the wastes of another; but neither may be aware of the possibility. The Greater Vancouver Regional District has set up a hotline to answer recycling questions from the Lower Mainland. The Ministry should work with the GVRD and other jurisdictions to expand this to a toll-free service covering the whole province. The Ministry should pay half the cost of the service.

On the industrial side, waste exchanges — regular bulletins listing wastes wanted and wastes available - help industry to recycle bulk waste. There are seven in Canada and at least 20 in the U.S. Over six years, Canada's largest — the Canadian Waste Materials Exchange — diverted 1.4 million tonnes of waste, valued at $44 million, from disposal to recycling.

The Canadian Council of Resource and Environment Ministers is soon to release its report on a worldwide review of waste exchange programs. The Task Force recommends that until that report is published the Ministry fund half the costs of the Recycling Council of B.C.'s Industrial Waste Exchange.

The recycling programs should be self-sustaining, and should not depend on government wage and training subsidies for viability. Wherever possible, however, recycling programs that are already operating should be integrated into new operations.

HOW CAN WE CREATE DEMAND FOR RECYCLED MATERIALS?

Drawing off materials for recycling before they become part of the municipal waste stream will relieve some of the pressure on incinerators and landfills. But these materials must have somewhere to go. There must be an industry to reuse them, and a market for its products. Government can help. Through purchasing policy and consumer education, the Province can *increase the demand* for recycled products. The Province can *increase the supply* of recyclable materials by giving primary recyclers (who collect and sell

them) financial and tax incentives that make them more competitive with suppliers of virgin materials, and by promoting household recycling. In recognizing the value of the recycling industry, the Province should give it high priority for assistance by the economic development programs of the Ministry of Regional Development.

The Province's purchasing should give preference to materials made in B.C. partly, or completely, from recycled materials, starting with paper and lubricating oil. The Province should encourage other governments, institutions and industries to do the same.

Provincially funded research and development will help find new uses, and new production techniques, for recycled materials. We recommend that the Province establish a Recyled Product Research and Development Fund of $200,000 per year for five years for that purpose. The Ministry should also become a centre for information about new technical developments in recycling.

DEALING WITH RURAL WASTE PROBLEMS

Reducing small rural dumping sites

Most people are unwilling to transport garbage long distances. In rural areas, this has led to numerous small refuse sites, poorly kept and environmentally unacceptable. Most regional districts have now accepted responsibility for these sites, but many experience problems with windblown debris, bears, fire risks, and the insects and other pests that may breed there.

Some regional districts have solved these problems by replacing the old sites with transfer stations — ramps and rolloff containers for smaller volumes, enclosed push-pit systems for larger volumes. Waste is trucked regularly from transfer stations to a central or subregional landfill. For example, this approach has resulted in a vast improvement in waste control in the Upper Columbia Valley, and could provide a focal point for the start of rural recycling. Many regional districts, however, cannot afford the capital costs.

The Ministry should establish a capital grant program to cover half the costs of rural transfer stations up to $20,000 per site.

Junked autos and appliances

About 65,000 automobiles and 200,000 units of white goods — mostly major appliances — are scrapped every year in British Columbia.

This is a significant disposal problem for rural areas. Cars and appliances may be scattered around the countryside at small disposal sites. The need here is to gather them at central sites in sufficient quantities to make it worthwhile for commercial contractors to crush them and haul them away. We recommend a new program: Every second year, rural regional districts will contract to have scrapped autos and appliances hauled to a central location for processing by a contractor. The Ministry will pay 50 percent of the collection costs.

Because some appliances contain substances like freon and mercury, we recommend that the Ministry set out a clear policy to landfill operators and scrap metal contractors about how they are handled.

Other rural waste disposal problems

Remote camps. Most remote camps use landfills. Some are well run; others

are left uncovered and quickly attract bears, along with the usual problems. When the camps are abandoned, the landfills remain as eyesores. We recommend that remote camps of less than 100 people be required to 1) incinerate refuse daily, 2) use bear-proof containers, or 3) obtain a waste disposal permit to which specific conditions would be attached.

Fish farms and animal carcasses. Dead farm fish can introduce disease to wild stocks, or cause other problems, if dumped in the ocean; if dumped on land, they can attract bears or create health problems. Improper disposal of hunting kills or livestock carcasses can cause similar problems. The Ministry should provide clear direction.

Building materials. Wallboard and other wastes from construction or demolition can rapidly use up capacity at small rural landfills. The Ministry should work with local government, private landfill operators and the construction industry to develop a corrective strategy. Solid waste plans should examine ways to recycle or recover rather than dispose of these materials.

GENERATING ENERGY FROM WASTE

Incinerated wastes occupy only a third or even a quarter of the space required by raw waste. Capital and operating costs for incineration, however, are relatively high, and emission control and ash handling complicate the process. The sale of RDF (refuse derived fuel) or of recovered energy in the form of electricity and steam can help defray costs.

There is much support in B.C. for generating energy from woodwaste, particularly in the interior — provided the energy could feasibly be fed to B.C. Hydro. However, incinerator emissions and ash disposal must meet Ministry standards.

We recommend that Ministers of State in regions with woodwaste surpluses make energy-from-woodwaste projects an economic development priority.

In Ontario, provincial programs help fund incineration projects that provide RDF or energy for electrical power. The federal government also provides assistance: the GVRD received more than $8 million in federal funds towards its Burnaby incinerator, plus $1.5 million in federal sales tax relief on the sale of the steam it produced. The B.C. Ministry of Energy, Mines, and Petroleum Resources is developing a program to provide capital grants to energy-from-waste facilities. We recommend that the program also include projects that produce RDF.

AN INFORMED AND SUPPORTIVE PUBLIC

The public review made it clear that many people are anxious about the effects of solid waste management on their environment and health. They support the principle of reduced landfill deposits, and are looking for alternatives. All they need is more and better information. This is recognized by the Task Force and reflected in many of our recommendations.

The school system is an important place to start, through classroom presentations and school and community programs that involve recycling. The Ministry distributes print and video material on solid waste management. We recommend that the Ministry of Education incorporate waste management into the curriculum, to ensure that students are reached consistently province-wide. We also recommend that the Ministry of Environment provide containers and technical support for recycling programs at schools, colleges and universities.

Adults need to be educated about solid waste, too. The Ministry of Environment should undertake province-wide consumer education programs that explain the advantages of recycling, discuss product packaging, and discourage littering.

A BETTER WAY TO CONTROL LITTER

Beverage containers

The B.C. *Litter Act* (1970) made littering illegal and specified a minimum refund for soft drink and beer containers. After ten years, the Act was reviewed and found to be "waste management effective." More than 84 percent of 750 million beverage containers sold annually are recovered. There is room for improvement, however.

We recommend that the present mandatory refund system be improved. It should be extended to include rigid sealed containers of soft drinks, fruit drinks, mineral water, water, beer, ale, cider and coolers. Dairy products, milk substitutes and fruit juices should be exempt.

We also recommend that bottlers, brewers, and distributors be required to collect a minimum deposit of five cents each for containers of a litre or less (10 cents each if the Province is able to work out a standardized price with Alberta and Saskatchewan at that level), and 20 cents for containers of more than a litre. It should be their responsibility to collect their returned containers from retailers, depots, or recyclers, and to pay them a handling fee of two cents per container. The Province should encourage the creation of a system of bottle depots to make containers easier to return, and to lighten the load on retailers.

This approach encourages consumers to return empties for the refund rather than discard them as litter. It remunerates retailers for returning empties to the bottler. And a mandatory deposit removes the opportunity of using the refund value to manipulate the cost of the product and create uneven competition among bottlers.

In arriving at these recommendations, we looked at programs across Canada and the United States, and heard an overwhelming majority of correspondents speak in favour of retaining the present basic approach and expanding it. The Task Force agrees.

A comprehensive anti-litter program

We need to know more about what litter is, where it comes from, and why. The Ministry should conduct a compre-

hensive study, then implement a long-term public education program. It should also work with the Ministry of Attorney General to draft legislation for the prosecution of litterers. A two-cent tax should be placed on drinks sold in non-rigid sealed containers, and the proceeds used for anti-litter and cleanup programs. We also recommend the printing of anti-litter logos on convenience food containers.

TOWARD REDUCED PACKAGING WASTES

We recommended a detailed study of packaging in the waste stream. There is no common approach to this problem, which is significant. Studies suggest that 30 percent of all residential garbage is packaging, and that 90 percent of all packaging is wasted.

We received clear messages from our public contact: There should be more control over packaging, and recyclable packaging should be promoted. Non-recyclable packaging should be degradable, and non-toxic when disposed of. Manufacturers should contribute to disposal costs. To that we add: The Minister of Environment should work with ministers from other provinces to develop a national strategy aimed at this problem, and the Ministry should promote the recyclable design concept to industry.

HANDLING SPECIAL WASTES

Many consumer products — paints, automotive fluids, medicines, cleaners — are potentialy hazardous to people and their environment. Biomedical wastes also pose dangers. For these reasons, collection programs have been organized in a number of U.S. states.

At present, the Ministry can only accumulate hazardous wastes in its eight regional storage depots for eventual shipment out of the province. The depots' capacity is strained. Radioactive, explosive, pathological, and biological wastes are handled separately; PCBs are separated for long term storage.

The Province has been working since early 1988 towards a treatment facility for special waste. Current effort is aimed at finding a site. We recommend that the Province give this urgent priority. We also recommend that the Province fund a third of the cost of suitable storage facilities in each regional district, and prepare a manual for use by local authorities.

Used motor vehicle oil makes up more than a third of B.C.'s special wastes. We recommend that the Province fund a third of the capital costs of used oil storage containers at municipal waste disposal sites.

Finally, there is the question of biomedical wastes, the subject of a joint study by the Ministries of Enviornment and Health. Their report was submitted in December, 1988. The Province should create a strategy based on that report.

WHO SHOULD PAY FOR WASTE DISPOSAL?

In principle, whoever creates waste should pay for its disposal. This should be the Ministry's long-term approach to costs. We recommend, for example, that the Ministry impose a tipping fee surcharge of 50 cents per tonne on all waste dumped at landfills and incinerators. The proceeds should be used for solid waste management support programs.

We also recommend that the cost of collecting and disposing of certain hard-to-dispose-of products (including special wastes) be reflected in an excise tax on their contents — a "waste initiators' tax." The Ministry should develop a list of these products by January 1, 1990.

Charging householders and industry directly for waste disposal according to their volume of waste has proved very effective elsewhere in reducing municipal waste levels and encouraging recycling. We recommend that the Ministry review the options in this area and encourage local governments to implement fees such as householder charges or tipping fees.

TO SUM UP:

The public review process used in preparing these recommendations was very well supported. We were particularly impressed by the many excellent suggestions and ideas that the public brought forward. The tour was gruelling; but it produced excellent participation. The discussion paper aroused interest and opinion, and created useful discussion.

This public involvement should continue. We recommend the appointment of concerned people from a variety of backgrounds to a Municipal Solid Waste and Recycling Advisory Committee. Its purpose should be to look into the many issues surrounding these subjects and advise the Minister of Environment on its findings.

The public review process has raised public expectations, and a speedy response is appropriate. We have recommended that the Ministry prepare an action plan, spelling out when and how recommendations will be implemented.

RECOMMENDATIONS

Solid Waste Planning and Management

1. The Government adopt as its policy and priorities in solid waste management the 5 R's - reduce, reuse, recycle, recover, and residual management.

2. The Government set a five year provincial goal of reducing the municipal solid waste stream by a minimum of 25 percent through recycling and by a further 10 percent at least through the composting of leaf and yard wastes plus backyard composting of household organics.

3. All regional districts be required to prepare Solid Waste Management Plans by December 31, 1994. Any municipalities not covered by a regional district plan are to prepare their own plan by that date.

4. Solid Waste Management Planning Grants of $5,000 plus 50 percent of the next $10,000 to a maximum of $10,000 per applicant be given to regional districts and municipalities undertaking Solid Waste Management Plans and regional districts be eligible for a similar grant for each municipality included within its plan.

5. In order to provide local government with the information required to conduct Solid Waste Management Plans, the Ministry of Environment conduct the following studies:

a) A review and update of the provincial municipal objectives for landfills and incinerators.

b) The estimation for representative communities in British Columbia of the true cost of landfills including capital, operating, closure, post-closure, and environmental costs.

c) The estimation of the true costs of incineration for a representative sample of communities including capital, operating, ash disposal and environmental costs.

d) The estimation of the current material composition by weight and by volume of the municipal solid waste stream, as separated into residential and commercial/industrial wastes. This study should be repeated every five years to identify any emerging trends.

e) The development of procedures to estimate the volumes of wastes being disposed of at smaller landfill sites, where the weighing of the wastes is impractical.

f) The development of municipal recycling and composting manuals which detail the methods, equipment, personnel and costs of implementing various municipal recycling and composting options.

g) A review of rural solid waste transfer station options including their design, operation and costs.

h) The development of an office waste paper recovery manual for use by government, institutions and businesses.

i) A review of methods for collecting recyclable materials from apartments and commercial buildings.

j) A study of consumer product packaging as a component of the solid waste stream and the options available for reducing its volume.

k) The development of a data base on recyclable material markets, prices and quantities recovered. The data base is to be updated annually.

l) A study of the environmental impacts of degradable plastics both photo- and bio-degradable.

6. The Province establish through the Ministry of Advanced Education and Job Training one or more faculty research fellowships at British Columbia's universities to conduct research into solid waste management and disposal methods.

7. The Ministry of Environment establish a Solid waste Management and Recycling Section within the Waste Management Branch. The section should include the following functions:

a) Management
b) Municipal Recycling Coordination
c) Commercial/Industrial Recycling Coordination
d) Recyclable Material Market Coordination
e) Grant Administration
f) Solid Waste Disposal Engineering
g) Administrative Support.

The establishment of positions will need to be phased with the program implementation and adequate personnel allotments introduced to each function as determined necessary by the Ministry.

8. The Minister of Environment establish, and appoint people to, a Municipal Solid waste and Recycling Advisory Committee. Members should be appointed from local governments, recyclers, industry, consumer groups and the general public. The advisory committee should then develop sub-committees to address municipal issues, recycling, packaging and litter control.

9. The Ministry of Municipal Affairs, Recreation and Culture amend the Municipal Act to make solid waste disposal a regional district function.

10. The Ministry of Municipal Affairs, Recreation and Culture amend the Municipal Act to remove the limitations on local governments in raising revenues for solid waste disposal.

11. The Ministry of Municipal Affairs, Recreation and Culture amend the Municipal Act to require local governments with a solid waste disposal function to establish a capital reserve to pay for the long-term environmental costs of solid waste disposal facilities, including incineration, refurbishment, and landfill closure and post-closure.

12. The Government direct all provincial Ministries, agencies and Crown corporations which use local government waste disposal facilities to pay for their use of those facilities. The payment may be made in either cash or in kind.

13. The Ministry of Environment should continue in its cooperative approach in assisting municipal permittees who are not operating in compliance with their discharge permit where the permittee is working to correct the problem. However, the ministry should strictly enforce the premit requirements where corrective actions are not taking place.

Municipal Recycling and Composting

14. The Ministry of Environment establish a five year Recycling and Composting Capital Grant Program for local governments. Local governments are to be eligible for capital grants only

if recycling and/or composting of leaf and yard wastes were shown in their Solid Waste Plans to be justified and that markets for the materials produced had clearly been identified. The grants are to be for:

a) 100 percent of the cost of household containers, to a maximum of $8 per household, for residential recycling programs. Wherever practical, a standard recycling container is to be supplied in lieu of the equivalent funds.
b) one-third of the capital cost of equipment used primarily for recycling or composting.
c) one-third of the capital cost of apartment recyclable material storage containers.
d) one-third of the capital costs of rural recycling depot drop-off contianers.
e) one-third of the capital costs of backyard home composters up to a maximum of $20 per composter.
f) 50 per cent of recycling programs initial promotion and education costs up to 50 cents per household.

15. The Province show leadership in the recycling field by establishing an office paper recovery demonstration project in all provincial government offices. The project is to begin with the Parliament Buildings and the Ministry of Environment's Victoria area offices and after six months should expand to all Ministries, Crown corporations and agencies in the Victoria and Vancouver area. The program should expand to other areas of the province as soon as paper markets have been identified.

16. The Ministry of Environment establish a Commercial Recycling Program to promote and provide technical support for the establishment of commercial source separation recycling programs.

17. The Ministry of Environment work with the Greater Vancouver Regional District and other local governments to expand the use of a recycling hotline to cover the entire province through the use of a toll-free telephone number and that the province fund 50 percent of the cost of the program.

18. The Ministry of Environment provide interim funding of $25,000 or 50 percent of the annual costs of the Recycling Council of British Columbia's Industrial Waste Exchange while the Canadian Council of Resource and Environment Ministers reviews the establishement of a national waste exchange system.

19. Local governments, when establishing recycling programs, are encouraged to use existing facilities and to integrate established programs wherever possible.

20. Local governments should be left to determine the best means, either by the public or private sector, for the collection and processing of recyclable materials in their community.

21. While the use of handicapped and special needs workers is strongly encouraged in recycling programs, the program's viability should not be made dependent on the availability of federal or provincial job training grant programs.

22. The Ministry of Environment should consider amending the Waste Management Act to include a provision prohibiting the scavenging of materials set out for a municipally authorized recycling program if municipal by-laws prove to be ineffective.

Developing the Recycling Industry and Markets

23. The recycling industry in British Columbia should be recognized as a valuable manufacturing, job creating and trade development industry and the recycling industry be treated as a priority industry for the economic development programs of the Ministry of Regional Development.

24. The Province establish a procurement policy giving preference to materials made in British Columbia in whole or in part from recyclable materials. Initially the procurement policy is to be for paper products, giving first preference to products containing 25 percent or more post-consumer fibre and second preference to those containing 1 percent or more post-consumer fibre, and for lubricating oils containing at least 50 percent rerefined oil. Other materials are to be added as they are shown to be economically viable. While no price preference is recommended, the Province is to annually review and set procurement goals for each material, for example in the first year the Province should purchase a minimum of 25 percent of its car and light duty truck lubricating oils from rerefiners.

25. Other levels of government, institutions, and industries should be encouraged to develop procurement policies similar to that of the Province.

26. The Province exempt capital equipment and material primarily used for the collection, processing and manufacturing of recyclable materials from the Social Service Tax.

27. The Province request the Federal Government to exempt capital equipment and material purchased for the collection, processing and manufacturing of recyclable material from the Manufacturers Sales Tax.

28. The Federal Government be requested to extend the Accelerated Capital Cost Allowance for pollution control equipment to include capital equipment used to process and manufacture recyclable material.

29. The Ministry of Transportation and Highways in conjunction with the Ministry of Environment review provincial transportation regulations to facilitate the backhauling of recyclable materials and to reduce any other transportation barriers for recyclable materials.

30. The Province establish a Recycled Product Research and Development Fund of $200,000 per year for five years. This fund, to be administered by the Ministry of Environment, is to be used for the funding of research and development of new methods of collecting recyclable materials, new uses for recyclable materials and new production techniques.

31. The Ministry of Environment collect and disseminate on an ongoing basis information on research and development into new production methods and new products made from recyclable materials.

Rural Area Waste Management

32. The Ministry of Environment establish a Rural Transfer Station Capital Grant Program to provide 50 percent of the capital costs of establishing a rural transfer station up to a maximum of $20,000 per site.

33. The Ministry of Environment establish a Rural Auto Hulk and White Goods Collection Program to fund 50 percent of the collection costs. This program is to assist in the collection to a central location of auto hulks and white goods in rural regional districts every second year. The regional district is to be responsible for identifying the sites of the auto hulks and white goods and, with the Ministry, contract for their collection.

34. Remote camps of less than 100 people be required to dispose of their refuse by daily incineration or by the provision of bear-proof containers. Otherwise a waste disposal permit shall be required.

35. The Minister of Environment seek funding from the federal Minister of Indian and Northern Affairs to pay for Native Indian Band use of local government waste disposal facilities.

36. The Ministry of Environment review its regional staff and budget requirements for the management and planning of the solid waste program.

Energy and Resource Recovery

37. The Ministers of State in regions with a woodwaste problem make energy-from-woodwaste projects a priority for assistance in their economic development regions.

38. The Ministry of Energy, Mines and Petroleum Resources expand its proposed energy-from-waste assistance program to include projects which produce refuse-derived fuel.

Public and Consumer Education

39. That the Ministry of Education incorporate waste management and recycling education into the school curriculum.

40. The Ministry of Environment establish a School Recycling Program to fund the cost of storage containers for source separation recycling projects in schools, colleges and universities and provide technical support for their set-up.

41. The Ministry of Environment produce a monthly or quarterly recycling newsletter to promote recycling.

42. The Ministry of Environment undertake a province-wide consumer education program on the role of recycling and on consumer choices in product packaging.

43. The Ministry of Environment prepare and implement a long-term public anti-litter program.

Litter Control

44. The Province maintain a beverage container refund/deposit system. Should curbside collection and rural recycling programs exhibit participation levels indicative of an effective container recovery option, consideration could be given to phasing out refund/deposit requirements.

45. The beverage containers included in the refund/deposit system include rigid sealed containers of soft drinks, fruit drinks, mineral water, water, beer, ale, cider and coolers. Dairy products, non-dairy milk subsititues and fruit juices, defined as a beverage of 85 percent or more fruit juice, be exempted from the deposit requirement.

46. The Province make it mandatory for the bottlers, brewers and import distributors of prescribed beverage containers to collect a minimum deposit on any container sold of 5 cents per container of one litre or less and 20 cents per container greater than one litre. In addition, it is the bottler's, brewer's or import distributor's responsibility to collect their containers which have been returned to retailers, depots or recyclers.

47. A handling fee of 2 cents per prescribed soft drink, fruit drink, mineral water and water container returned be paid to retailers, depots, and recyclers by the bottlers or import distributors for any container returned by a consumer. In addition, any number of containers, purchased through one receipted transaction, can be returned to the same retailer after suitable prior notification has been given.

48. A system of bottle depots for the return of all prescribed beverage containers be encouraged in addition to the current return-to-retailer system.

49. A tax of 2 cents per container be placed on soft drink, fruit drink, mineral water and water sold in non-rigid sealed containers; such funds generated to be used for implementing anti-litter and clean-up programs.

50. The Ministry of Environment conduct a comprehensive litter study which should determine:

a) the composition of litter
b) who litters and why
c) the effectiveness of alternate anti-litter strategies
d) the extent of local wine and liquor bottle litter
e) implementation of a Litter Tax.

51. The Province work with the governments of the other three western provinces to standardize beverage deposits and to work to have the minimum deposit for containers of one litre or less set at 10 cents.

52. The Ministry of Environment work with industry to promote the use of anti-litter logos on unsealed beverage containers (e.g. disposal cups) and other convenience food packaging.

53. The Ministry of Environment develop sound investigative measures to control illegal dumping of residential waste in an attenpt to establish good precedents for successful charges and consult with the Ministry of Attorney General in drafting legislation to facilitate the prosecution of littering offenders.

Packaging

54. The Minister of Environment through the Canadian Council of Resource and Environment Ministers advance as quickly as possible the development of a national strategy for the reduction of packaging materials and other wastes.

55. The Ministry of Environment promote to industry the principle of "designing for recyclability." That is that manufacturers when designing a product strive to ensure that their consumer products are able to be safely and economically recycled using existing recycling technology and methods. In British Columbia, the immediate potential for paper substitutes in egg cartons, fast food clamshells, etc. should be considered.

Special Wastes in the Municipal Waste Stream

56. The Province treat the location and development of a provincial special waste disposal facility as an urgent priority.

57. The Province fund one-third of the cost of building and site preparation of a facility for the storage of special wastes diverted from the municipal solid waste stream in communities who wish to establish such programs.

58. The Ministry of Environment produce a household special waste collection manual for use by participating local governments and conduct personnel training courses on the handling and storage of such wastes.

59. The Province accept responsibility for the disposal of any potential special wastes which it requested a municipal facility to accept.

60. The Province fund one-third of the capital costs of waste oil storage containers at municipal waste disposal facilities.

61. The Province, on the basis of the Biomedical Task Force report, adopt a strategy for the control of these wastes and collaborate with regional governments on the need and feasibility of integrated management systems.

Other Waste Problems

62. The Ministry of Environment develop a clear policy for landfill operators and scrap metal dealers about handling and disposing of white goods and the special waste status of component chemicals. In addition, white goods should be a priority for the market development activities of the proposed Solid Waste Management and Recycling Section.

63. The Ministry of Environment and the Ministry of Agriculture and Fisheries examine the problems of fish farm wastes and animal carcass disposal and provide recommendations for their correction.

64. The Ministry of Enviornment work with local government to develop alternative methods of handling woodwaste from demolition and land clearing wastes (e.g. chipping and composting, etc.).

65. The Ministry of Enviornment work closely with local government and private landfill operators to monitor the construction and composition of sites intended for future industrial development.

66. The Ministry of Environment work closely with local government and the construction industry to reduce volumes of gypsum wallboard being disposed.

67. The Ministry of Environment in conjunction with the federal Department of Fisheries and Oceans examine the problems of marine litter and adopt necessary measures to combat the problem.

Funding Solid Waste Management

68. The Province adopt the polluter-pays principle as its long term approach to waste management.

69. A provincial tipping fee surcharge of $0.50 per tonne be levied on all landfill and incinerator operators in British Columbia. The requirement for maintaining the surcharge is to be reviewed every five years.

70. The Province implement product charge excise taxes on difficult to dispose of products and that the Ministry of Environment develop by January 1, 1990, a list of products to be taxed and the recommended tax level for each product.

71. The Province examine the use of product charges to pay for the disposal of special wastes in British Columbia.

72. The Ministry of Environment produce a review of municipal solid waste user charge options and encourage local governments to implement solid waste user fees wherever feasible.

73. The Province make all municipal support program funding retroactive to January 1, 1988.

Final Comments

74. The public review process used in preparing recommendations to the Government on British Columbia's solid waste problems be an option to seek solutions to other environmental problems.

75. Any future environmental task force consider including both political representations, preferably a member of the Legislative Assembly, and technical staff from the Ministry.

76. The Ministry of Environment expeditiously prepare an action plan detailing how and when the Ministry will implement those recommendations of this report which are accepted by Government.